

Title (en)

PROCESS FOR OPERATING A FAIL SAFE MULTICOMPUTER SYSTEM.

Title (de)

VERFAHREN ZUM BETRIEB EINES SIGNALTECHNISCH SICHEREN MEHRRECHNERSYSTEMES.

Title (fr)

PROCEDE POUR L'EXPLOITATION D'UN SYSTEME MULTICALCULATEUR A SECURITE INTRINSEQUE.

Publication

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Application

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Priority

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Abstract (en)

[origin: WO9009632A1] A multicomputer system comprises individual computers which communicate through two separate channels (K1, K2). If one channel fails, data transmission continues in single-channel operation through the remaining channel and errors in the data continue to be detected with higher redundancy. Each receiving computer (E) acknowledges reception of the transmitted data telegrams (A1.1(K), A1.2(K)), in the correct order, to the emitting computer (S). If the acknowledgement is not made or is incomplete, the emitting computer (S) permits, after an acknowledgement monitoring time, the repetition of the data telegram (WA1.1(L), WA1.2(L)), in which errors are detected with higher redundancy. If said data telegrams are received in the correct order and acknowledged by means of corresponding acknowledgement messages (Q1.1(L), Q1.2(L)) through two channels, the emitting computer and subsequently the receiving computer resume two-channel data transmission in which errors in the data telegrams (A2.1(K), A2.2(K); Q2.1(K), Q@.2(K)) are not detected with higher redundancy. As long as the computers have not yet permanently switched over to single-channel transmission of data telegrams and acknowledgements in which the errors are detected by higher redundancy, a time monitoring (TÜZ) for a maximal permissible time shift between the two telegrams of a pair of data telegrams or pair of acknowledgement telegrams is triggered on the receiving side of the data telegrams or acknowledgements with each first received telegram, at the expiry of which period the received telegram is rejected.

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